

# Work Order ID 72037

Monday, July 18, 2011 10:03:07 AM

Page 1

Item ID: D206-642-541

Accept

Revision ID:

Item Name: Replacement Skidtube

Start Date: 7/18/2011 Start Qty: 1.00

Required Date: 7/29/2011 Req'd Qty: 1.00

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100



DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy bluefile & type labels per: PPP D206-642-541

CHG003

0.00

0.00

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

110

0.00



Skidtubes

Skidtubes

0.00

Skidtubes

**Memo**

\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274. cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI094

AR Aluminum Rod Batch:

m112860/m117456

4- grind fwd cap weld on top surface only

BE 11/06/02

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A.B.C.D.

Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP

11-5-26

BB 11/06/14

BE 11/06/02

BB 11/06/14

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Date:

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QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

114



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 u/16/15

116



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 u/16/15

120



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

OK  
u/16/15

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Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 BE 11/08/09

150

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/R Sikaflex-291

Sikaflex expire date:

Start: 11/08/09 Time:

Finish: 11/08/10 Time:

(Adhere for 12 hours)

117816  
12/01/15  
3:00  
8:00

> BB 11/08/09  
BB 11/08/09

W/O:		WORK ORDER CHANGES					
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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

1 0 BE 11/08/10

170

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2  
OPEN HOLES TO .297" . Deburr3- DRILL 10E PIN HOLE .640" DIA AS PER DWG USING DT89351-wld  
END OF TUBE  
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)  
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

BE 11/08/10

DL 11/08/10

W/O:		WORK ORDER CHANGES					
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Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

h2 2.93"

0.00

L2 4.6"

8wlos12

Memo

190



Skidtubes

Skidtubes

Skidtubes

0.00

0.00

Memo

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R: Aluminum Rod: 1

m112860

86 11/08/15

3-Grind cross bolt welds flush as per Dwg D3274.

11/08/15

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

DD

11-8-16

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Subs 8/16

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

Subs 8/16

②

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

IX D M-11/08/16

**Work Order ID 72037**

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Stop

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

m-p 1X Ø 11/08/16

240

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

0.00

1 Ø 11/08/17

250

HandFinishing

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

A/R N/A LPS-3. 1109956

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R Sikaflex-291

Sikaflex expire date:

1117516

12/01

1 Ø 11/08/17

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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Nut Plate &amp; Inserts

270

HAND FINISHING RESOURCE #1

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads &amp; gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R: Sikaflex-291 M117516

Sikaflex expire date: 12/07

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: N10

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R: Sikaflex-291 M117516

Sikaflex expire date: 12/07



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop

~~1 of 1 M117516~~

(AD)

1 of 1 M117516

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Subs/17

P

290

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

PP 70460

u/s/17 P

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

u/s/18 P

11-08-17  
C



# Picklist Print

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Page 1

Work Order ID: 72037

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B: 05-09-231 Revised per D206-642 Rev. J: KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM:  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC  
 IPP Rev:F 08-06-02 add comment DD verified by:EC  
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190		Manufactured	No			110	Each	33.4000	1	1			



Extrusion Round 3" 206

Location	Loc Qty	Loc Code
HALL	33.4	
59874	33.4	

D3285-1	Manufactured	No			110	Each	102.0000	1	1			
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Cap

Location	Loc Qty	Loc Code
LG002	102	
52511	55	
52647	47	

D3282-041	Manufactured	No			150	Each	0.0000	1	1			
-----------	--------------	----	--	--	-----	------	--------	---	---	--	--	--



Float Web (206L/407)

69715

11-5-26  
BE 11/06/02

1

11/08/09\*

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Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

190

Each

109.0000

12

12



Cross Bolt Spacer



BE 11/08/15  
8 72704 x 12

Location

Loc Qty

Loc Code

LG

97

68224

2

71355

95

LG001

12

65317

1

68507

11

D3275-1

Manufactured No

190

Each

239.0000

12

12



Crossbolt Spacer



BE 11/08/15

Location

Loc Qty

Loc Code

LG002

239

66930

106

68946

72

70688

61

CR3212-4-03

Purchased No

250

Each

1,192.000

2

2



Cherry Rivet



12

11

1108117

Location

Loc Qty

Loc Code

FP-B

2

110139

2

ST311

1190

114859

1190

x2

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Shop Packet Print

Page 2

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D3415-041  
  
 Nut Plate

Manufactured No

250 Each

60.0000 1 1



*ml 11/08/13*

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST053	60	
33842	16	
67605	44	

*x1*

CCR264SS3-3  
  
 Cherry Rivet

Purchased No

250 Each

517.0000 2 2



*ml 11/02/13*

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP-B	2	
113973	2	
ST311	515	
117086	57	
117849	458	

*x2*

ALS4-1032-130  
  
 Insert

Purchased No

250 Each

2,266.000 78 78



*ml 11/08/13*

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST281	8	
117331	8	
ST282	2258	
117717	258	
118237	1744	
118312	256	

*x78*

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Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-15      Manufactured      No      270      Each      24.0000      1      1  
  
 Gasket



*HL 1108117*

Location	Loc Qty	Loc Code
FP011	24	
66559	11	
71586	13	

*YI*

D3536-23      Manufactured      No      270      Each      36.0000      1      1  
  
 Gasket



*M 1108117*

Location	Loc Qty	Loc Code
FP011	36	
43406	1	
69902	23	
71579	12	

*YI*

D3536-35      Manufactured      No      270      Each      28.0000      1      1  
  
 Gasket



*HL 1108117*

Location	Loc Qty	Loc Code
FP012	28	
69755	14	
71587	14	

*YI*

D3536-39      Manufactured      No      270      Each      31.0000      1      1  
  
 Gasket



*HL 1108117*

Location	Loc Qty	Loc Code
FP015	31	
66241	5	
69760	26	

*YI*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Monday, July 18, 2011 10:03:04 AM

Page 5

Work Order ID: 72037

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-15



Wearshoe

Manufactured

No

270

Each

23.0000

1

1



u 1108/17

## Location

## Loc Qty

## Loc Code

FP018

23

66558

3

68358

6

69931

14

D3535-35



Wearshoe

Manufactured

No

270

Each

29.0000

1

1



u 1108/17

## Location

## Loc Qty

## Loc Code

FP018

14

65926

1

67598

1

70815

12

ST

15

69756

15

D3535-39



Wearshoe

Manufactured

No

270

Each

17.0000

1

1



u 1108/17

## Location

## Loc Qty

## Loc Code

FP018

17

64076

4

69759

13

Monday, July 18, 2011 10:03:04 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, July 18, 2011 10:03:04 AM

Page 6

Work Order ID: 72037

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-23

Manufactured No

270

Each

36.0000

1

1



Wearshoe



ul u108117

## Location

## Loc Qty

## Loc Code

FP021

36

68342

8

70818

16

71581

12

ul

D3537-3

Manufactured No

270

Each

3.0000

1

1



Wearpad



ul u108117

## Location

## Loc Qty

## Loc Code

FP017

3

35697

1

70817

2

1370481

ul

D3537-1

Manufactured No

270

Each

19.0000

9

9



Wearpad



ul u108117

## Location

## Loc Qty

## Loc Code

FP017

19

69817

5

70686

14

1869530

1371571

ul

ul

AN960C10L

NAS1149C0332

Purchased

No

270

Each

0.0000

80

80



washer

1118306



(x80) ul u108117

AN960C416

NAS1149C0463

Purchased

No

270

Each

0.0000

1

1



washer

1117735



(x1) ul u108117

Monday, July 18, 2011 10:03:04 AM

Shop Packet Print

Page 6

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, July 18, 2011 10:03:04 AM

Work Order ID: 72037

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube



Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270

Each

920.0000

2

2



Phenolic Washer



24 1108117

## Location

## Loc Qty

## Loc Code

ST074

918

64177

418

66821

500

ST077

2

52505

2

AN3C4A

Purchased

No

270

Each

1,552.000

80

80



BOLT



24 1108117

## Location

## Loc Qty

## Loc Code

ST350

1552

117313

2

117688

488

117795

500

117872

22

118012

500

118112

40

AN4C5A

Purchased

No

270

Each

506.0000

1

1



BOLT



24 1108117

## Location

## Loc Qty

## Loc Code

FP-B

108

112243

108

ST345

398

112243

398

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, July 18, 2011 10:03:04 AM

Page 8

Work Order ID: 72037

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 7/18/2011

Required Date: 7/29/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

270

Each

73.0000

1

1



Aft Cap



all 11/08/11

## Location

## Loc Qty

## Loc Code

FP004

58

68280

58

FP006

5

62678

5

FP-4

1

70945

1

fp5

9

71038

9

D3413-1

Manufactured No

270

Each

41.0000

1

1



Ring



all 11/08/11

## Location

## Loc Qty

## Loc Code

ST420

39

62961

4

66387

4

70773

25

71041

6

ST473

2

66945

2

X

Monday, July 18, 2011 10:03:04 AM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**DART**

RELEASED

07.02.12

DEO ATTACHED

DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

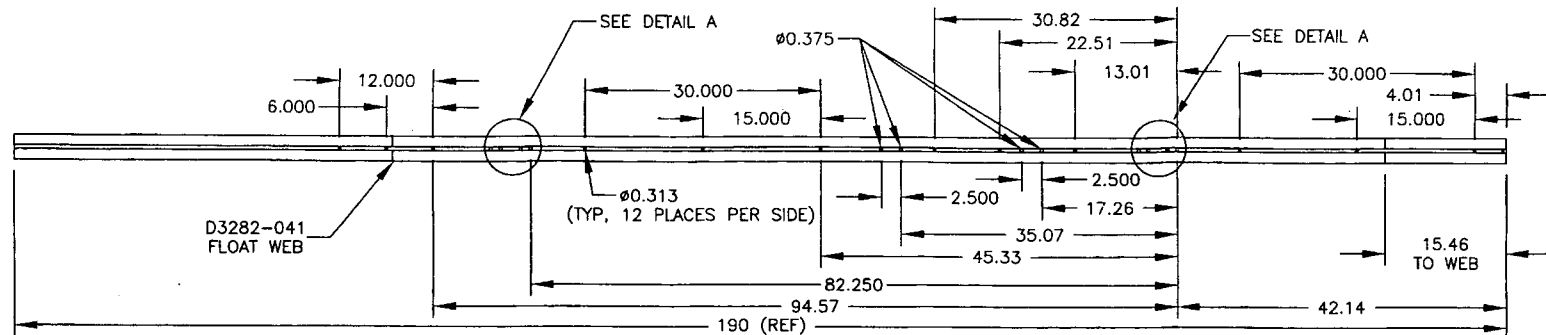
## GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

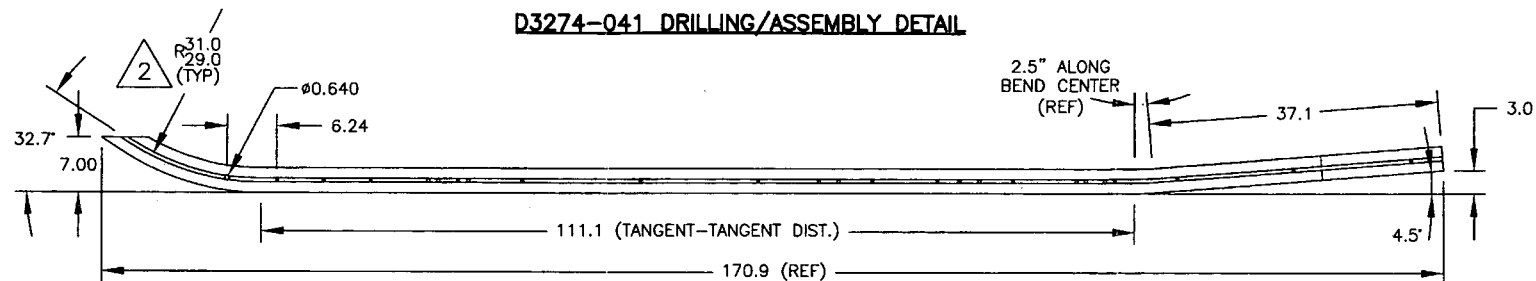
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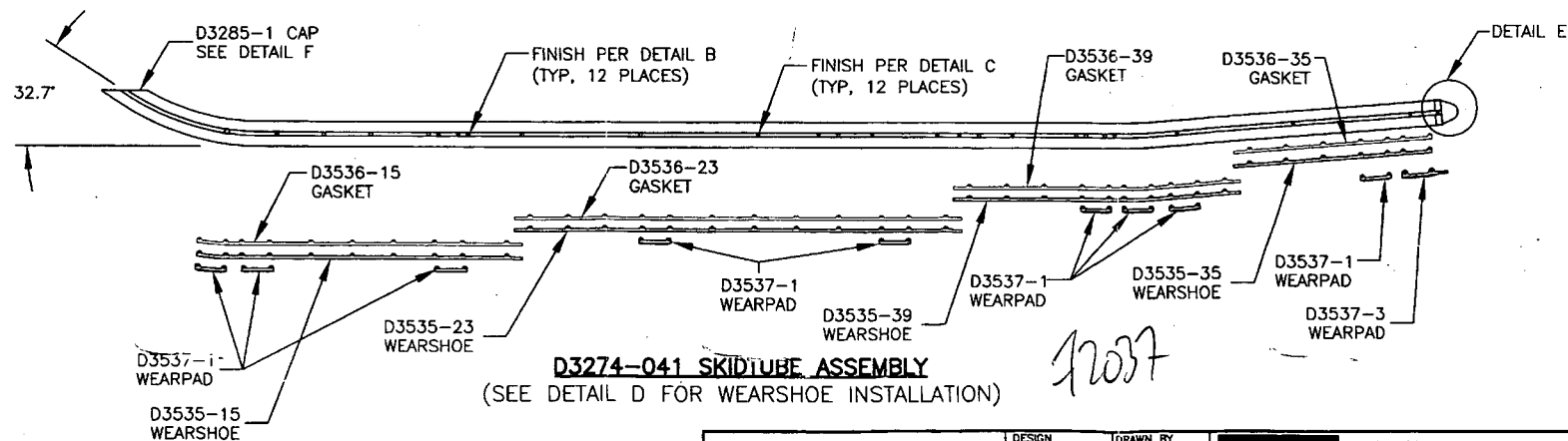
DEO ATTACHED



**D3274-041 DRILLING/ASSEMBLY DETAIL**



**D3274-041 BEND/DRILLING DETAIL**



**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

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DESIGN

CP

DRAWN BY

PH

CHECKED

#

APPROVED

#

DART AEROSPACE USA, INC.

PORT HADLOCK, WA

DATE

06.12.19

TITLE

SKIDTUBE ASSEMBLY

DRAWING NO.

D3274

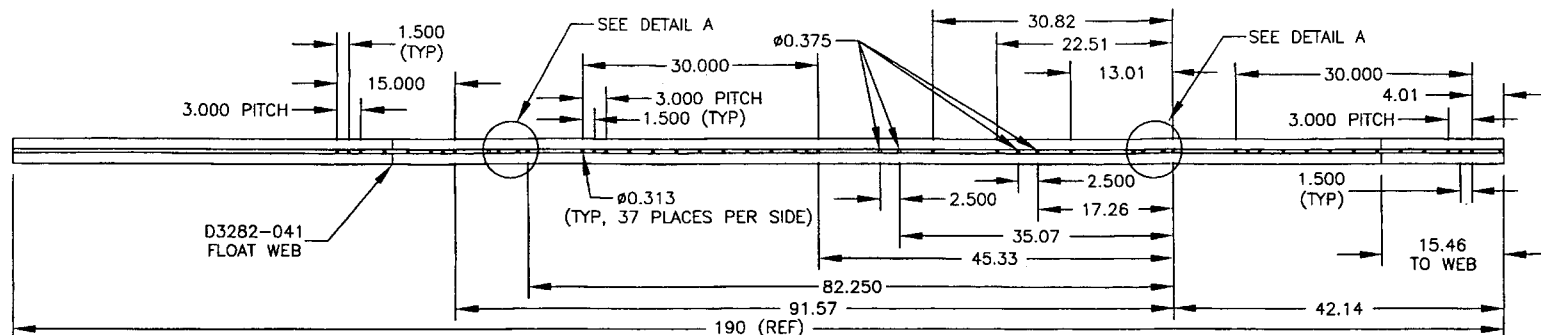
REV. D

SHEET 2 OF 4

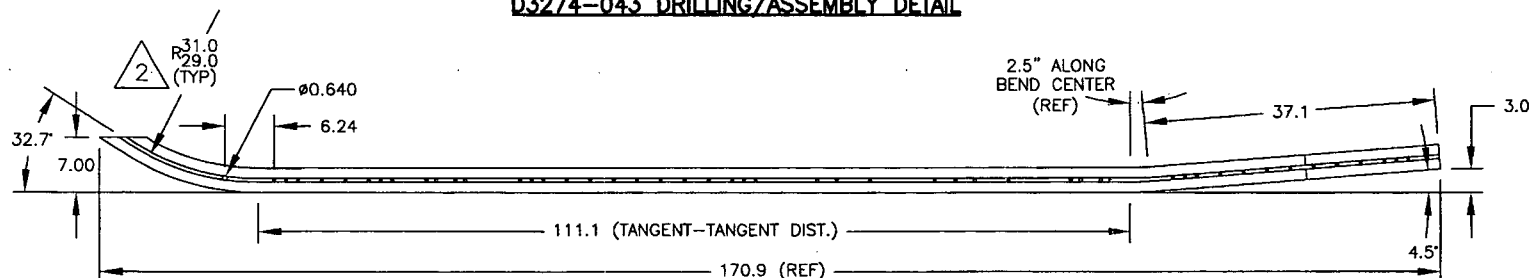
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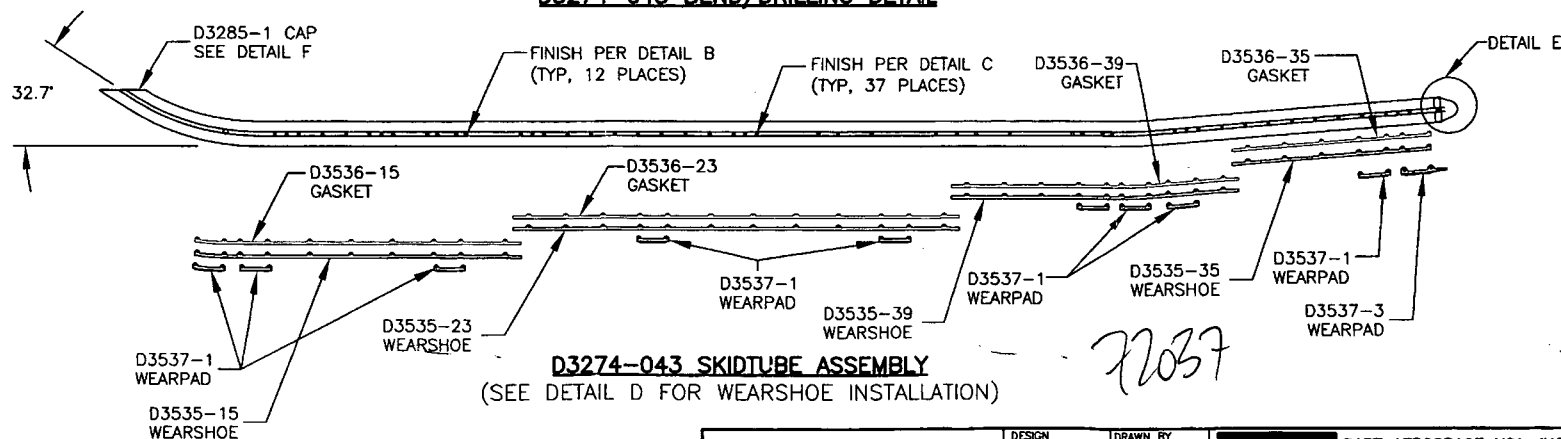
DEO ATTACHED



**D3274-043 DRILLING/ASSEMBLY DETAIL**



**D3274-043 BEND/DRILLING DETAIL**



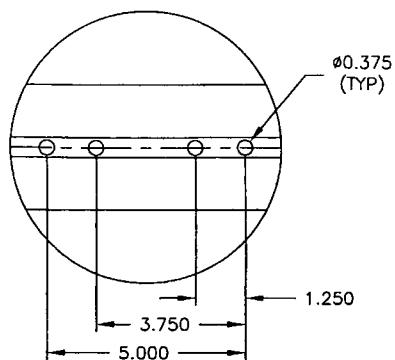
**D3274-043 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

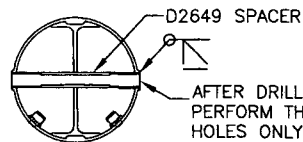
07.02.12

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CHECKED	APPROVED	DATE	DRAWING NO.	REV. D
#	#	06.12.19	D3274	SHEET 3 OF 4
			TITLE	SCALE
			SKIDTUBE ASSEMBLY	1:15

# **DETAIL A: DRILL DETAIL**

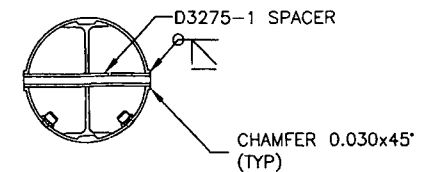


# **DETAIL B** FOR Ø0.375 HOLES ONLY

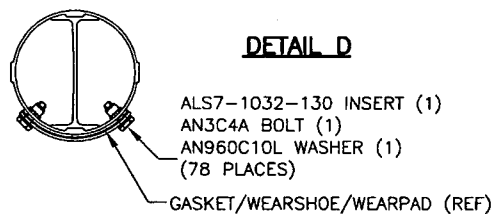


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.375  
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE TO Ø0.313x0.75 DEEP

# **DETAIL C** FOR Ø0.313 HOLES ONLY



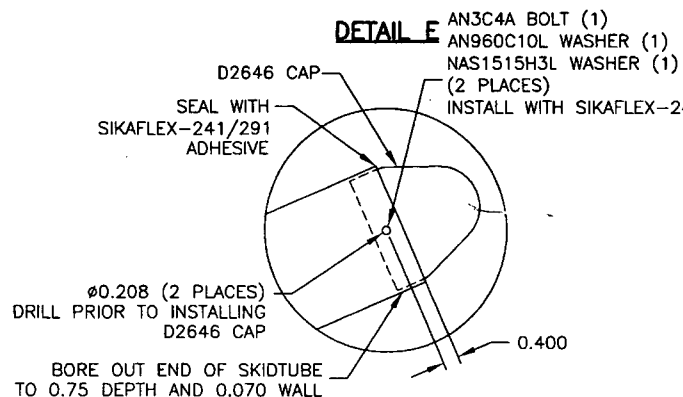
# **DETAIL D**



- ALS7-1032-130 INSERT (1)  
AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

# **DETAIL E**



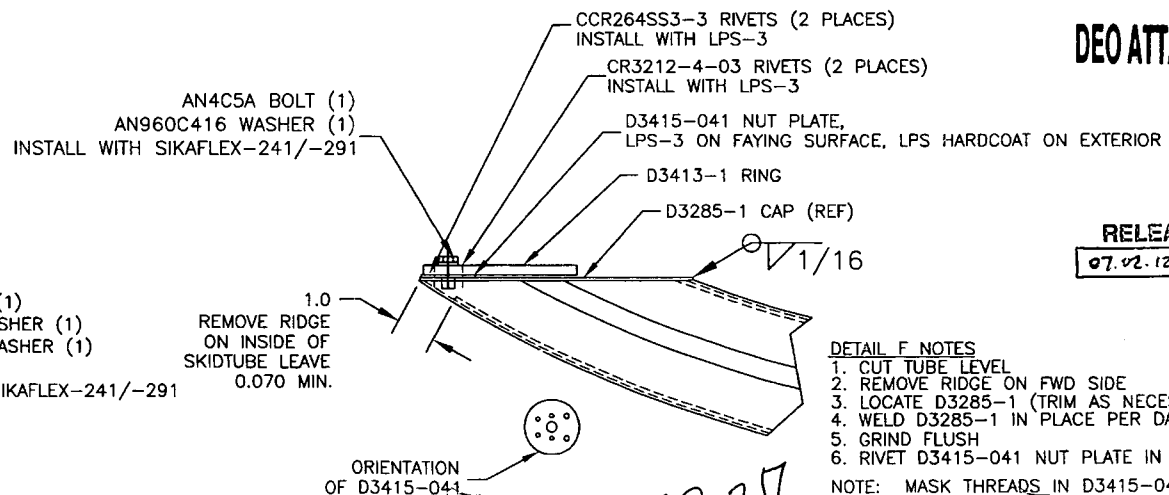
- AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
NAS1515H3L WASHER (1)  
(2 PLACES)  
INSTALL WITH SIKAFLEX-241/-291

D2646 CAP  
SEAL WITH  
SIKAFLEX-241/291  
ADHESIVE

Ø0.208 (2 PLACES)  
DRILL PRIOR TO INSTALLING  
D2646 CAP

BORE OUT END OF SKIDTUBE  
TO 0.75 DEPTH AND 0.070 WALL

# **DETAIL F: END FINISHING DETAIL**



CCR264SS3-3 RIVETS (2 PLACES)  
INSTALL WITH LPS-3

CR3212-4-03 RIVETS (2 PLACES)  
INSTALL WITH LPS-3

D3415-041 NUT PLATE,  
LPS-3 ON FAYING SURFACE, LPS HARDCOAT ON EXTERIOR

D3413-1 RING

D3285-1 CAP (REF)

1.0  
REMOVE RIDGE  
ON INSIDE OF  
SKIDTUBE LEAVE  
0.070 MIN.

ORIENTATION  
OF D3415-041

**DEO ATTACHED**

**RELEASED**  
07.02.12

# **DETAIL F NOTES**

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

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DESIGN

CP

DRAWN BY

PH

**DART** DART AEROSPACE USA, INC.  
PORT HADLOCK, WA

CHECKED

PH

APPROVED

PH

DRAWING NO.

D3274

REV. D

DATE

06.12.19

TITLE

SKIDTUBE ASSEMBLY

SHEET 4 OF 4

SCALE

1:3

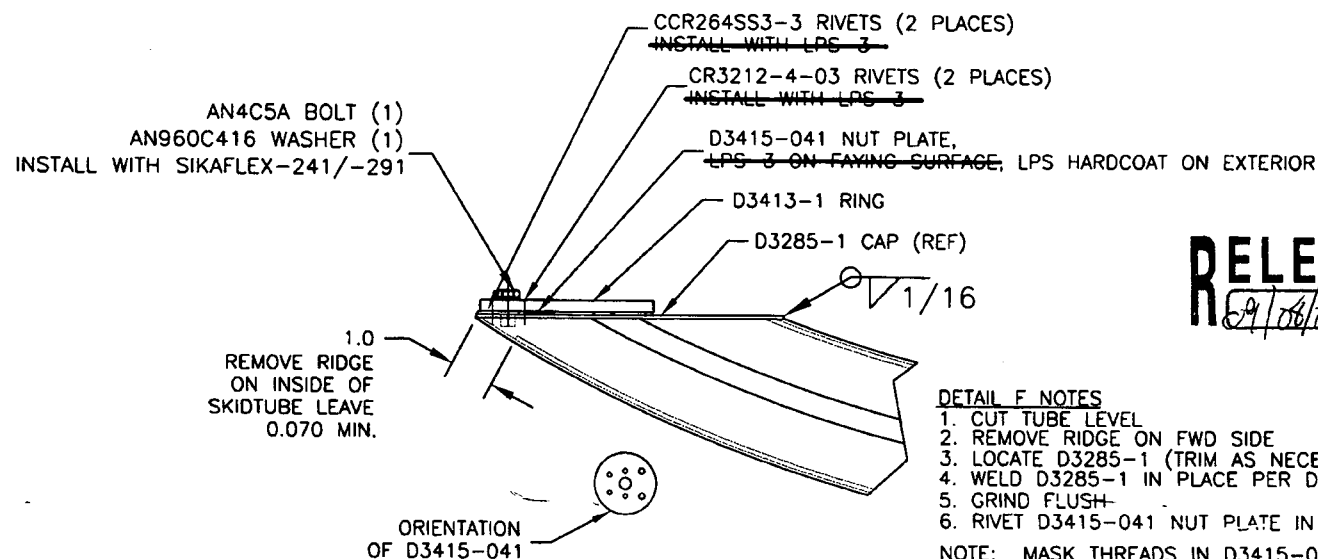
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	<b>DART AEROSPACE USA, INC</b>	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

### DETAIL F: END FINISHING DETAIL



**RELEASED**  
09/06/23

#### DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

12037

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NO. 261

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: B69449  
Part number: D206 642 541  
Description: 206  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Sal Summ Date of Test Coupon 11-08-11

Welder Barclay Elliott Date of Test Coupon 11-08-11

The above named individual is qualified in accordance with AWS D17.1.2001 to weld